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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/413,384	10/06/1999	WILLIAM R. WHEAT	31223-74058	1958

25264 7590 01/29/2002

FINA TECHNOLOGY INC
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EXAMINER
JACKSON, MONIQUE R

ART UNIT	PAPER NUMBER
1773	10

DATE MAILED: 01/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/413,384	Applicant(s) WHEAT ET AL.	
	Examin r Monique R Jackson	Art Unit 1773	

-- Th MAILING DATE of this communication appears on the cover she t with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6-12 and 27-32* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6-12 and 27-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. The finality of the prior office action, Paper No. 8 dated 8/27/01, has been withdrawn in light of the new grounds of rejection presented below. Any inconvenience to the Applicant is regretted.

2. The amendment filed 12/19/01 has been entered. Claims 3 and 5 have been canceled. New claims 31 and 32 have been added. Claims 1-2, 4, 6-12, and 27-32 are pending in the application.

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

4. Claims 1-2, 4, 6-12, and 27-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 31 and 32 recite the limitation "capable of forming an effective heat seal with a corresponding thermoplastic polymer", however, the term "effective heat seal" is a relative term which renders the claims indefinite. The term "effective heat seal" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention given that heat seals of various heat seal strength are utilized in the art and hence, it is unclear what "an effective heat seal" corresponds to. Further, it is unclear as to what "a corresponding thermoplastic polymer" refers to given that the term has not been defined by the claims or the specification. It is noted that Claims 9 and 10 are similarly rejected given that they recite "an effective heat seal" with "a corresponding thermoplastic film". Claims 1-2, 4, 6-

12, and 27-31 are further rejected under 35 U.S.C. 112, second paragraph, because Claims 1 and 31 recite the limitation "ethylene in an amount of **no more than about one weight percent** which is effective to provide an inter-layer bond strength with said surface layer" in lines 7-9. First, the recitation "no more than about one weight percent" is indefinite because it does not particularly point out and distinctly claim the range for the invention given that 1.1 weight percent **is no more than** 1.2 weight percent which is **about one** weight percent and hence 1.1 weight percent is **no more than about** one weight percent even though it is greater than one weight percent. Additionally, the above limitation recites "which is effective to provide an inter-layer bond strength with said surface layer" following the "no more than about one weight percent", however, it is unclear from this limitation whether the Applicant is claiming the inter-layer bond strength as a positive limitation of the film given that the claimed invention utilizes open-language and hence additional components may be included in either or both layers which affect the inter-layer bond strength. As recited, "which is effective to provide an inter-layer bond strength" appears to be a description of the weight limitation "no more than about one weight percent" as opposed to a positive limitation of the inventive film. It is further noted that Claims 4, 5, 6, 7, 28, and 32 also recite claim limitations with regards to the ethylene content which is indefinite given that the claims nor the specification provide a definition or clear understanding of what is meant to be encompassed by the term "**between about** [A] weight percent and **about** [B] weight percent" as in Claims 4, 5, 6, 7, and 32, or "**within the range of about** 0.05-0.8wt%" as in Claim 28 because as discussed above with regards to "no more than about", these limitations do not provide a set endpoint(s) from which the relative terms "between" and "within" can be computed. Hence, it is unclear from these limitations as to the amount of

ethylene being claimed. Similarly Claim 2 recites the limitation "within the range of about" in lines 2-3 which renders the claim indefinite for similar reasons.

Claim Rejections - 35 USC § 102

5. Claims 1-2, 4, 6-12, and 27-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Isaka et al (USPN 4,230,~~676~~ 767.) Isaka et al teach a heat sealable laminated propylene polymer packaging material comprising (A) a base layer consisting of a biaxially stretched film made of a polymer composition comprising a propylene polymer and (B) a surface layer consisting of a uniaxially or biaxially stretched film made of a polymeric blend comprising olefin copolymers provided on at least one surface of the base layer or both surfaces of the base layer; wherein the thickness of the film is 5 to 150 microns with the total thickness of surface layers (B) comprising 0.2 to 50% of the packaging material thickness, with each surface layer preferably 0.7 to 10 microns (Col. 6, lines 34-44; Col. 8, lines 33-59.) Isaka et al teach that the propylene polymer for the base layer (A) is a polymer mainly comprising propylene and having a melting point of 140°C, or higher, preferably 150°C or higher with specific examples thereof including isotactic polypropylene with an isotactic index of 85% by weight or higher or a copolymer of ethylene and propylene having an ethylene content of 7% by weight or lower, and specifically teach an example utilizing isotactic polypropylene with an ethylene content of 0.5% which is within the range as instantly claimed wherein such range is effective to provide the inter-layer bond strength as instantly claimed (Col. 3, lines 5-24; Examples, particularly Example 10.)

6. Claims 1-2, 4, 6-12, and 27-32 are rejected under 35 U.S.C. 102(e) as anticipated by Peiffer et al (USPN 6,063,482.) Peiffer et al teach a biaxially oriented polypropylene film comprising a base ply essentially consisting of an isotactic propylene polymer having at least

90% by weight, in particular 98 to 100% by weight of propylene units and the corresponding comonomer content of not more than 10% by weight, or 0 to 2% by weight, ethylene (wherein 0 to 2% by weight encompasses the instantly claimed range of 0.05 to 0.8 wt% "which is effective to provide an inter-layer bond strength with said surface layer which is at least about 15 percent greater than the inter-layer bond strength between said surface layer and a film formed of isotactic polypropylene homopolymer"; Abstract; 3:48-53.) In a preferred multilayer embodiment, the polypropylene film comprises at least one top ply or if necessary top plies on both sides, composed of polymers of α-olefinic polymers having 2 to 10 carbon atoms, such as propylene homopolymer, copolymer of ethylene and propylene, or terpolymer of ethylene and propylene and 1-butylene (which are inherently "capable of forming an effective heat seal with a corresponding thermoplastic polymer upon heating to an elevated temperature and compression"; 5:28-6:8.) Preferred embodiments of the polypropylene film according to the invention are three-ply wherein the structure, thickness and composition of a second top ply can be chosen independently of the top ply already present (6:46-52.) The thickness of the top ply or plies is generally greater than 0.1μm and is preferably in the range of 0.1 to 10μm (6:54-58.) The thickness of the interlayer or interlayers is generally greater than 0.3μm and preferably in the range of 1.0 to 15μm (6:59-66.) The total thickness of the polypropylene film according to the invention may vary within wide limits and depends on the intended use but it is preferably 4 to 100 μm, with the base ply accounting for about 40 to 100% of the total film thickness (7:1-5.) In terms of bond strength, considering the invention taught by Peiffer et al is the same as that of the instant application, the propylene film would inherently possess the same inter-layer bond strength as the instantly claimed invention. Therefore, considering Peiffer et al teach a

multilayer polyolefin film comprising a core layer of isotactic propylene polymer formed from propylene and up to 10wt% ethylene and preferably 0-2wt% ethylene, which encompasses the instantly claimed range, and a top ply or plies made from olefin polymers such as ethylene-propylene copolymers which are inherently thermoplastic polymers capable of forming an effective heat seal with a corresponding thermoplastic polymer upon heating and compression, wherein the thickness of the film and the layers fall within the instantly claimed ranges, the invention taught by Peiffer et al anticipates the invention claimed in the present application.

Claim Rejections - 35 USC § 103

7. Claims 1-2, 4, 6-12, and 27-32 are rejected under 35 U.S.C. 103(a) as obvious over Isaka et al (USPN 4,230,767) in view of Agarwal et al (USPN 5,795,946.) The teachings of Isaka et al are discussed above. Though Isaka et al teach thickness ranges and percentages of ethylene utilized to produce the isotactic propylene polymer that do not fall within the instantly claimed ranges, it is well known in the art that layer thickness is a result-effective variable which affects the film properties of the resulting product such as gas barrier properties and it is also well known in the art that ethylene content in an isotactic propylene polymer is a result-effective variable as evidenced by Agarwal et al affecting the crystallinity of the resulting polymer and in turn the melting point and flexibility of the polymer wherein the heat seal properties of a polymer are directly affected by the melting point of the polymer. Hence, it would have been obvious to one having ordinary skill in the art to utilize routine experimentation to determine the optimum layer and film thickness and the optimum percentage of ethylene in the isotactic propylene copolymer to produce a multilayer film with the desired film properties for a particular end use based on the invention taught by Isaka et al.

8. Claims 1-2, 4, 6-12, and 27-32 are rejected under 35 U.S.C. 103(a) as obvious over Peiffer et al (USPN 6,063,482) in view of Agarwal et al (USPN 5,795,946.) The teachings of Peiffer et al are discussed above. Though Peiffer et al teach thickness ranges and percentages of ethylene utilized to produce the isotactic propylene polymer that do not fall within the instantly claimed ranges, it is well known in the art that layer thickness is a result-effective variable which affects the film properties of the resulting product such as gas barrier properties and it is also well known in the art that ethylene content in an isotactic propylene polymer is a result-effective

variable as evidenced by Agarwal et al affecting the crystallinity of the resulting polymer and in turn the melting point and flexibility of the polymer wherein the heat seal properties of a polymer are directly affected by the melting point of the polymer. Hence, it would have been obvious to one having ordinary skill in the art to utilize routine experimentation to determine the optimum layer and film thickness and the optimum percentage of ethylene in the isotactic propylene copolymer to produce a multilayer film with the desired film properties for a particular end use based on the invention taught by Peiffer et al.

Response to Arguments

9. Applicant's arguments filed 12/19/01 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monique R Jackson whose telephone number is 703-308-0428. The examiner can normally be reached on Mondays-Thursdays, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul J Thibodeau can be reached on 703-308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

mrj
January 7, 2002

Paul Thibodeau
Supervisory Patent Examiner
1700

1773

ATOFINA

ATOFINA Petrochemicals, Inc.
Legal Department

February 4, 2002

Examiner Monique R. Jackson
U. S. Patent and Trademark Office
Washington, DC 20231

RE: Serial no. 09/413,384 - Wheat

Dear Examiner Jackson:

In accordance with our telephone conversation today, I am enclosing the Office Action mailed January 29, 2002. The cover sheet is correct for our application but the Office Action Summary belongs to another file.

We shall look forward to receiving the correct Office Action with a revised mailing date.

Thank you,

Linda

Linda Nightingale

Enclosure

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EXAMINER
JACKSON, MONIQUE R

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